**WHAT IS CLAIMED IS:**

1. A fluorescent detection system comprising:

an array of excitation light sources;

an array of detectors; and

a filter assembly comprising an excitation filter positioned for excitation light from the excitation light sources and an emission filter positioned for fluorescent light from an array of samples,

wherein the excitation filter and emission filter are positioned substantially parallel to each other.

2. The fluorescent detection system of claim 1, wherein each sample corresponds to one excitation light source and two detectors.

3. The fluorescent detection system of claim 1, wherein each sample corresponds to two excitation light sources and one detector.

4. The fluorescent detection system of claim 3, wherein the two excitation light sources are narrow band sources and the one detector is a broad band detector.

5. The fluorescent detection system of claim 4, wherein the excitation filter substantially rejects wavelengths outside those of the narrow band sources.

6. The fluorescent detection system of claim 5, wherein the emission filter substantially rejects wavelengths of the narrow band sources.

7. The analytical instrument of claim 6, wherein the excitation filter has a maximum wavelength of at most 535 nm and the excitation filter exhibits at least 80% efficiency in rejecting wavelengths greater than the maximum wavelength.

8. The analytical instrument of claim 7, wherein the emission filter has a minimum wavelength of at least 535 nm and the excitation filter exhibits at least about 80% efficiency in rejecting wavelengths less than the minimum wavelength.

9. The analytical instrument of claim 8, wherein the maximum wavelength is 10 nm or more shorter than the minimum wavelength.

10. The fluorescent detection system of claim 1, wherein the filter assembly comprises alternating portions of excitation filter and portions of emission filter.

11. The analytical instrument of claim 10, wherein the alternating portions are positioned in strips.

12. The analytical instrument of claim 11, wherein the alternating portions are positioned in an staggered array.

13. The fluorescent detection system of claim 1, further comprising an array of focusing lenses.

14. The fluorescent detection system of claim 13, wherein each focusing lens corresponds to each sample.

15. The fluorescent detection system of claim 13, wherein a first set of focusing lenses corresponds to the excitation light and a second set of the focusing lenses corresponds to the fluorescent light.

16. The fluorescent detection system of claim 1, further comprising an array of collimating lenses.

17. The fluorescent detection system of claim 16, wherein the array of collimating lenses comprises a first set of collimating lenses for the excitation light and a second set of collimating lenses for the fluorescent light.

18. A filter assembly comprising:

an excitation filter adapted to condition excitation light from an excitation light source; and

an emission filter adapted to condition fluorescent light from a sample,

wherein the excitation filter and the emission filter are form alternating portions of the filter assembly, wherein the filter assembly is substantially flat.

19. The filter assembly of claim 18, wherein the excitation filter and emission filter are separate structures coupled together.

20. The filter assembly of claim 19, wherein the excitation filter and the emission filter form a lattice with nodes and openings.

21. The filter assembly of claim 20, wherein the nodes and openings are positioned in a staggered array.

22. The filter assembly of claim 18, wherein the excitation filter and the emission filter are part of one substrate.

23. The filter assembly of claim 22, wherein the excitation filter comprises a coating on the substrate.

24. The filter assembly of claim 22, wherein the emission filter comprises a coating on the substrate.

25. The filter assembly of claim 22, wherein the substrate comprises a first layer configured to provide the excitation filter and a second layer configured to provide the emission filter.

26. A method of fluorescent detection comprising:

providing a flat filter assembly comprising:

an excitation filter, and

an emission filter;

providing excitation light;

positioning the excitation light to correspond with the excitation filter;

conditioning the excitation light with the excitation filter;

providing a sample adapted to generate fluorescent light when excited by the excitation light;

positioning the fluorescent light to correspond with the emission filter;

conditioning the fluorescent light with the emission filter;

detecting the conditioned fluorescent light.

27. The method of claim 26, wherein conditioning the excitation light comprises substantially rejecting wavelengths in a wavelength range of the fluorescent light.

28. The method of claim 26, wherein conditioning the emission light comprises substantially rejecting wavelengths in a wavelength range of the excitation light.

29. The method of claim 26, wherein positioning the excitation light comprises aligning an array of the samples with an array of excitation light sources.

30. The method of claim 26, wherein positioning the fluorescent light comprises aligning an array of the samples with an array of detectors.